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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 31667 PC 01		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/DK 03/00597	International filing date (day/month/year) 16.09.2003	Priority date (day/month/year) 16.09.2002	
International Patent Classification (IPC) or both national classification and IPC H05B33/08			
Applicant FIRST FLOWER & FRUIT COMPANY AS ET AL.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 13 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand 15.04.2004		Date of completion of this report 08.02.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Boudet, J Telephone No. +49 89 2399-6093 	

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I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-10 filed with telefax on 18.12.2004

Claims, Numbers

1-16 filed with telefax on 18.12.2004

Drawings, Sheets

1/7-7/7 received on 02.12.2003

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
 - ☐ the language of publication of the international application (under Rule 48.3(b)).
 - ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority in written form.
 - ☐ furnished subsequently to this Authority in computer readable form.
 - ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
 - ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-16
	No: Claims	
Inventive step (IS)	Yes: Claims	1-16
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following document:

D1: GB 2 369 730 A

2. The document D1 is regarded as being the closest prior art to the subject-matter of independent claims 1 and 2 and shows:

A method for controlling light being emitted from a light-emitting system comprising a plurality of light emitting diodes, LEDs, said method comprising controlling the following parameters:

- the temperature of the surroundings of each of the LEDs,
- the luminous flux of each of the LEDs,
- the electrical power being supplied to each of the LEDs,

The subject-matter of claim 1 differs from this known method in that

- "- the controlling of the surrounding temperature establishes the control of the luminous intensity being emitted from the system, and thus the control of the luminous flux of the LEDs,
- the lifetime of the LEDs is not decreased due to the fact that the current of the electrical power is not increased during the lifetime of the LEDs."

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

3. The problem to be solved by the present invention may be regarded as increasing the luminous flux emitted by the LEDs by controlling the temperature of the system and without increasing the electrical power supplied to the LEDs.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

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The closest prior art document D1 discloses an LED based lighting system in which the LEDs are cooled in order to be able to increase the electrical power supplied to them and thereby the optical throughput. However neither D1 nor any of the other available documents do disclose or hint to decreasing the temperature of the LEDs without increasing the electrical power to the LED just for increasing the LED optical throughput.

4. The same reasoning with respect to novelty and inventive step applies to independent method claim 2.
5. Claims 3-16 are dependent on claim 2 and as such also meets the requirements of the PCT with respect to novelty and inventive step.

Further remarks

6. The above objections notwithstanding, it is noted that the present application does not comply with the requirements of Article 6 PCT because both independent claims 1 and 2 are formulated using unclear language, as shown below:
 - In claim 1, the passage "and where controlling the surrounding temperature establishes a means for..." is erroneous because it is not clear how the act of "controlling the surrounding temperature" which is a method feature can logically establish "a means" which is rather an apparatus feature.
 - Accordingly, in claim 2, the passage "the means for [...]" consists in not increasing the current" is erroneous because "the means for..." refers to an apparatus feature and "not increasing the current" refers to a method feature.
 - In claim 1, the passage "by the current of the electrical power not being increased" is formulated in an awkward manner.
 - In claim 2, the passage "by means of both controlling the temperature [...], and by means of controlling the electrical power [...]", is unclear because the word "both" introduces confusion as to what it refers to.
7. Also, for the sake of clarity, it is desirable to draft corresponding apparatus and method claims with the same structure and with strictly corresponding features.